

**CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN FRANCISCO BAY REGION**

ORDER NO.95-108

NPDES PERMIT NO. CA0037648

WASTE DISCHARGE REQUIREMENTS FOR:

**CENTRAL CONTRA COSTA SANITARY DISTRICT
CONTRA COSTA COUNTY**

The California Regional Water Quality Control Board, San Francisco Bay Region, hereinafter called the Board, finds that:

1. Central Contra Costa Sanitary District, hereinafter called the discharger, submitted a Report of Waste Discharge dated August 31, 1994 for reissuance of waste discharge requirements and a permit to discharge wastewater to waters of the State and the United States under the National Pollutant Discharge Elimination System (NPDES).
2. This discharge is presently governed by Waste Discharge Requirements in Order No. 89-170, adopted by the Board on November 15, 1989.
3. The discharger owns and operates a municipal wastewater treatment plant located at 5019 Imhoff Place in Martinez, Contra Costa County. The plant provides secondary level treatment for combined domestic, commercial, and industrial wastewater collected within a number of cities, towns, and unincorporated areas in central Contra Costa County. The discharger's service area currently has a population of about 398,000.
4. The treatment plant has an average dry weather flow design capacity of 45 million gallons per day (mgd). The plant presently discharges an average dry weather flow of about 32.5 mgd, and an annual average effluent flow of about 38.7 mgd. The maximum daily flow average during the five year period from 1990 through 1994 was 72.5 mgd. A map showing the location of the facility is included as Attachment A.
5. Treated wastewater is currently discharged into Suisun Bay, a water of the State and the United States, through a submerged diffuser located about 1,600 feet off shore at a depth of about 24 feet below mean lower low water (Latitude 38 deg., 2 min., 44 sec.; Longitude 122 deg., 5 min., 55 sec.). Treatment facilities utilized prior to discharge to Suisun Bay consist of screening, primary sedimentation, biological activated sludge, secondary clarification, and disinfection.
6. Waste-activated sludge is thickened via flotation thickeners, and lime is added to the sludge blending tank to assist in dewatering with the centrifuges. The combined primary and thickened waste-activated sludge is dewatered and incinerated in one of two multiple-hearth furnaces. Ash produced in the incineration process is disposed of at a landfill or reused as a soil amendment or building material. A treatment process schematic diagram is included as Attachment B.
7. In order to increase dry weather flow handling capacity and reduce the occurrence of wet weather overflows at the treatment facility, the discharger has implemented and

developed a series of projects. As part of a new headworks facility, the influent pump system was upgraded in 1994 and now has a capacity of 240 mgd. The discharger has recently completed several projects that increase its dry weather flow capacity: the Aeration Basins Improvement Project, which allows greater operational flexibility and increased oxygen transfer efficiency; a project that allows the secondary process to operate in the selector mode, which will increase the total aeration basin volume by 25 percent; and the Secondary Clarifier Improvements Project, which improved flow distribution to the clarifiers, replaced the old effluent weirs, and improved the return sludge pump system. The discharger plans to document the actual dry weather capacity during the effective period of this Order. The secondary treatment facilities presently have a peak wet weather flow capacity in excess of 90 mgd; future upgrades will increase this capacity to 105 mgd. Future improvements will increase the capacity of the outfall, which presently has a capacity of about 90 mgd.

8. The treatment plant includes a series of holding basins for temporary storage of wet weather flows in excess of the plant's capacity. These basins are used, when necessary, to store influent flows in excess of the treatment plant capacity. Surplus raw wastewater is routed from these basins to the plant when capacity becomes available in the treatment units. These basins are designated as Holding Basins A-North, B, and C, and their combined volume is 140 million gallons.
9. Wet weather flows in excess of the basins' capacity can be discharged at Discharge Point No. 002 from near the northwest corner of Holding Basin C to an unnamed drainage channel which is tributary to Pacheco Slough and Walnut Creek. Discharge from this location is not a permitted flow, and is not authorized by this Order. The discharge would be settled wastewater that may contain chlorinated influent raw sewage, primary effluent, secondary effluent, or a combination of any of the three. In most cases, the discharge would be primary effluent. The hydraulic retention time provided by the three-basin system is on the order of several days, which allows for additional biological and physical treatment of the wastewater prior to any emergency discharge. Discharge from these basins has not occurred since 1986. The discharger is considering a project to relocate the existing Discharge Point No. 002 from near the northwest corner of Holding Basin C to a point near the northeast corner of Holding Basin B.
10. A fourth basin, located near Basin B, was once used to hold and dewater alum sludge produced by the Contra Costa Water District. This practice was discontinued in 1987. This basin is now available for use for temporary storage of ash, grit, and dewatered sewage sludge produced by the discharger. The basin may also be used for drying and/or short term storage of alum sludge produced by the Contra Costa Water District.
11. The U.S. Environmental Protection Agency (USEPA) and the Board have classified this discharger as a major discharge.
12. The Board adopted a revised Water Quality Control Plan (Basin Plan) for the San Francisco Bay Region on December 17, 1986. The Basin Plan identifies beneficial uses and water quality objectives for surface waters in the region, as well as effluent limitations

and discharge prohibitions intended to protect beneficial uses. This Order implements the plans, policies and provisions of the Board's Basin Plan.

13. The Board amended the Basin Plan on October 21, 1992 to adopt a site specific water quality objective of 4.9 µg/l for copper for San Francisco Bay. Although the State Board did not approve this amendment on procedural grounds, in the best professional judgement of this Board, from a technical standpoint, the site-specific objective is currently the best available water quality objective that is protective of the most sensitive designated use of San Francisco Bay waters with respect to copper: habitat for aquatic organisms. The effluent concentration limit for copper in this permit is based on the Board's study to develop a site-specific objective for copper that employed the "water effect ration" approach developed by the USEPA. This approach provides a measure of the binding capacity of natural waters (dependent on particulate matter) relative to the binding capacity of reference waters (filtered oceanic water). The study and associated staff analysis are described in a September 25, 1992 Board staff report entitled "Revised Report on Proposed Amendment to Establish a Site Specific Objective for Copper for San Francisco Bay".
14. Effluent limitations in this permit are based on the plans, policies, and water quality criteria of the Basin Plan, Quality Criteria for Water (EPA 440/5-86-001, 1986; Gold Book), Applicable Federal Regulations (40 CFR Parts 122 and 131), the National Toxics Rule (57 FR 60848, 22 December 1992; NTR), and Best Professional Judgement. Due to the salinity in the Suisun Bay waters, effluent limitations for the discharge are based on marine water quality objectives .
15. The Basin Plan contains water quality objectives and beneficial uses for San Francisco Bay and contiguous waters. The beneficial uses of Suisun Bay as designated in the Basin Plan are as follows:
 - Industrial Service Supply
 - Navigation
 - Water Contact Recreation
 - Non-contact Water Recreation
 - Ocean Commercial and Sport Fishing
 - Wildlife Habitat
 - Preservation of Rare and Endangered Species
 - Fish Migration
 - Fish Spawning
 - Estuarine Habitat
16. The 1986 Basin Plan initiated the Effluent Toxicity Characterization Program (ETCP) in which certain dischargers were required to monitor their effluent using critical life stage toxicity tests to generate information on toxicity test species sensitivity and effluent variability to allow development of chronic toxicity effluent limitations.
17. The discharger has not detected chronic toxicity in the effluent at levels of concern; however, they continue to monitor the discharge on a regular basis. During the ETCP,

the effluent was intermittently acutely toxic to *Ceriodaphnia dubia*. The discharger completed a Toxicity Identification Evaluation, and found that organophosphate pesticides commonly used in domestic and commercial applications appear to be the cause of acute toxicity in the effluent. The discharger has been actively engaged in efforts to identify and reduce sources of these pesticides.

18. The discharger currently operates a chlorine disinfection system, which provides odor control and activated sludge bulking control in addition to disinfection. Dechlorination is accomplished by the injection of sulfur dioxide into the effluent. In the early 1990's, the discharger began exploring the possibility of utilizing ultraviolet light for disinfection purposes, rather than continuing to use chlorine. This investigation was motivated, in part, by the concerns over the use of chlorine and sulfur dioxide from a safety, air quality, and water quality standpoint.
19. An onsite ultraviolet disinfection pilot test was conducted during the period from July through December 1992. The overall objectives of the study were to determine the ultraviolet dosage required to provide inactivation of total and fecal coliform, and enterococci bacteria in unfiltered effluent, determine the effects of suspended solids on disinfection efficiency, evaluate the long-term reliability of ultraviolet efficiency during high suspended solids events, evaluate lamp fouling characteristics, and, develop preliminary design criteria and total project cost estimates. This effort also included a seeded virus study. Based on the results of this pilot test, the discharger is proceeding with construction of an ultraviolet disinfection system for the plant. The new system is anticipated to be operational in the latter part of 1996.
20. In support of a proposal to use a fecal coliform bacterial effluent limitation based on water quality objectives established in the Basin Plan, the discharger has initiated a survey of beneficial uses in the vicinity of the outfall in the receiving waters. They have also established a monitoring program to track bacterial levels in the receiving waters. Initial results of these studies have indicated (1) that there is a minimal likelihood that waters in the direct vicinity of the outfall are used for body contact recreation; and, (2) that the discharge of effluent does not appear to be negatively affecting water quality due to bacteria.
21. The Basin Plan specifies water quality objectives for both total and fecal coliform bacteria and, to date, the effluent limitation for bacteria has been based on the objective for total coliform. This Order establishes a bacterial effluent limitation based instead on the fecal water quality objective. The discharger qualifies for this limit due to the limited degree to which the receiving waters in the vicinity of the discharge are used for water contact recreational purposes. Additional factors include the reduced use of chemicals for chlorination and dechlorination, and the resulting decrease in chlorination by-products in the effluent (benefits to be realized in the near future prior to start-up of ultraviolet system), and results of the pilot test which indicate that ultraviolet light is more effective than chlorine at killing viruses. Receiving waters will continue to be monitored by the discharger to evaluate any impacts related to use of the fecal coliform limitation.

22. The USEPA Water Quality Criteria for cyanide for protection of marine aquatic species is 1.0 µg/l, which is below the presently achievable reporting limit (ranges from approximately 3 µg/l to 5 µg/l). Using a dilution factor of 10:1, the effluent limitation for cyanide is calculated to be 10 µg/l for a deep water discharger. An effluent limitation of 25 µg/l was established for the discharge in the previous permit pursuant to the Basin Plan. This limitation was based on the Basin Plan's water quality objective of 5 µg/l, which was set at the limit of detection, and the additional factor that cyanide is not anticipated to persist in the environment. Cyanide monitoring data collected during the five year period of 1990 through 1994 for the discharger's effluent indicates that an effluent limitation of 10 µg/l may be intermittently exceeded. Therefore, this Order maintains an effluent limitation of 25 µg/l. This Order requires the discharger to evaluate possible causes of elevated cyanide levels in their effluent, and to pursue source reduction as necessary and appropriate to achieve and maintain compliance with a future effluent limitation of 10 µg/l.
23. In 1993, the Regional Monitoring Program (RMP) found PCB concentrations in water throughout the estuary at levels exceeding the USEPA criterion. The USEPA criterion indicates the potential for bioaccumulation in fish tissue to levels that pose a risk to human health, when the fish is consumed. Results of a pilot study conducted in 1994 to test for potentially bioaccumulatory substances in fish tissue indicate that concentrations of PCB, dioxins, chlordane, dieldrin, DDT, and mercury are present at levels of concern for human consumption. The Regional Board and the discharger acknowledge that commercially available laboratory techniques do not allow for detection of all these constituents in effluent at levels low enough to determine the extent of contribution of these substances by the discharger.
24. Presently available laboratory procedures for dioxins, PCBs, and polynuclear aromatic hydrocarbons (PAHs) are not sufficiently sensitive to determine the discharger's ability to comply with water quality based deep water effluent limitations for these constituents. PCBs and PAHs have not been detected in the effluent, and dioxins have not been detected at levels in excess of the effluent limitation for a deep water discharger. Because the discharger's ability to comply with a water quality based effluent limitation is unknown at this time, the effluent limitations specified for these constituents in this Order are based on past laboratory performance.
25. In order to work towards more accurate characterization of environmentally persistent pollutants in wastewater effluents, the Board will pursue efforts to acquire information regarding the feasibility of developing and using laboratory procedures that will provide for lower reporting limits than those presently achieved.
26. The discharger has been working with Acme Fill Corporation, owner and operator of a landfill located in Contra Costa County, to evaluate the feasibility of discharging treated leachate from the landfill via the discharger's collection system into the treatment plant. Leachate is extracted from the landfill in order to hydraulically control its migration from the site into surrounding ground and surface waters. The discharger is currently accepting treated leachate on a trial basis, but no decision has been reached regarding long-term acceptance of the leachate.

27. Federal Regulations for stormwater discharges were promulgated by the USEPA on November 19, 1990. The regulations [40 Code of Federal Regulations (CFR) Parts 122, 123, and 124] require specific categories of industrial activity (industrial storm water) to obtain a NPDES permit and to implement Best Available Technology Economically Available (BAT) and Best Conventional Pollutant Control Technology (BCT) to control pollutants in industrial stormwater discharges.
28. The storm water flows from the wastewater treatment facility areas are directed to the wastewater treatment plant headworks and treated along with the wastewater received by the plant. All pump stations serving the plant are constructed such that rainfall and stormwater in contact with pump station equipment and/or sewage is self-contained, and flows to the treatment plant. These stormwater flows constitute all industrial storm water at this facility and consequently this permit regulates all industrial storm water discharges at this facility.
29. The discharger has implemented and is maintaining an USEPA approved pretreatment program in accordance with Federal pretreatment regulations (40 CFR 403) and this Board's Order No. 89-179.
30. Operations and Maintenance procedures are maintained by the discharger for purposes of providing plant and regulatory personnel with a source of information describing all equipment, recommended operation strategies, process control monitoring, and maintenance activities. In order to remain useful and relevant, the procedures shall be kept updated to reflect significant changes in treatment facility equipment and operation practices.
31. This Order serves as an NPDES Permit, adoption of which is exempt from the provisions of Chapter 3 (commencing with Section 21000) of Division 13 of the Public Resources Code [California Environmental Quality Act (CEQA)] pursuant to Section 13389 of the California Water Code.
32. The discharger and interested agencies and persons have been notified of the Board's intent to reissue requirements for the existing discharge and have been provided an opportunity to submit their written views and recommendations.
33. The Board, in a public meeting, heard and considered all comments pertaining to the discharge.

IT IS HEREBY ORDERED, pursuant to the provisions of Division 7 of the California Water Code and regulations adopted thereunder, and to the provisions of the Clean Water Act and regulations and guidelines adopted thereunder, that the Central Contra Costa Sanitary District (discharger) shall comply with the following:

A. DISCHARGE PROHIBITIONS

1. Discharge at any point at which the wastewater does not receive an initial dilution of at least 10:1 is prohibited.
2. The bypass or overflow of untreated or partially treated wastewater to waters of the State, either at the treatment plant or from the collection system or pump stations tributary to the treatment plant, is prohibited.
3. The average dry weather flow discharge shall not exceed 45 mgd. The average dry weather flow shall be determined over three consecutive dry weather months each year.
4. Discharges of water, materials, or wastes other than storm water, which are not otherwise authorized by this NPDES permit, to a storm drain system or waters of the State are prohibited.

B. EFFLUENT LIMITATIONS

The term "effluent" in the following limitations means the fully treated wastewater effluent from the discharger's wastewater treatment facility, as discharged to Suisun Bay.

1. The effluent discharged to Suisun Bay shall not exceed the following limits:

<u>Constituent</u>	<u>Units</u>	<u>Monthly Average</u>	<u>Weekly Average</u>	<u>Daily Maximum</u>	<u>Instan- taneous Maximum</u>
a. Carbonaceous Biochemical Oxygen Demand (CBOD ₅ , 20°C)	mg/l	25	40	50	--
b. Total Suspended Solids	mg/l	30	45	60	--
c. Oil & Grease	mg/l	10	--	20	--
d. Settleable Matter	ml/l-hr	0.1	--	--	0.2
e. Chlorine Residual ¹	mg/l	--	--	--	0.0

¹ Requirement defined as below the limit of detection in standard test methods defined in *Standard Methods for the Examination of Water and Wastewater*. Chlorine residual monitoring is not required when the treatment plant is operating with the ultraviolet disinfection system.

2. The pH of the discharge shall not exceed 9.0 nor be less than 6.0.
3. Coliform Bacteria: The treated wastewater, at some place in the treatment process prior to discharge, shall meet the following limits of bacteriological quality: The 30-day log mean value for the Most Probable Number (MPN) of fecal coliform bacteria shall not exceed 200 MPN/100 ml, nor shall more than 10% of the samples equal or exceed 400 MPN/100 ml.

If it is found by the Executive Officer, through review of effluent and receiving water data collected pursuant to requirements of this Order, that use of the above described limitation is inadequate for protection of beneficial uses, then the following limit shall apply to the discharge (unless the discharger has applied for amendment to this permit with a demonstration that some other limit is appropriate):

Coliform Bacteria: The treated wastewater, at some place in the treatment process prior to discharge, shall meet the following limits of bacteriological quality: The moving median value for the Most Probable Number (MPN) of total coliform bacteria in any five (5) consecutive samples shall not exceed 240 MPN/100 ml; and, any single sample shall not exceed 10,000 MPN/100 ml.

4. 85 Percent Removal, CBOD and TSS: The arithmetic mean of the carbonaceous biochemical oxygen demand (Five-day, 20°C) and total suspended solids values, by weight, for effluent samples collected in each calendar month shall not exceed 15 percent of the arithmetic mean of the respective values, by weight, for influent samples collected at approximately the same times during the same period.
5. Effluent Toxicity:

5.1 Acute Toxicity:

Representative samples of the effluent shall meet the following limits for acute toxicity: (Provision F.5 of this Order applies to these bioassays.)

The survival of three-spined stickleback in undiluted effluent shall be an eleven (11) sample median value of not less than 90 percent survival, and an eleven (11) sample 90 percentile value of not less than 70 percent survival. The eleven sample median and 90th percentile effluent limitations are defined as follows:

11 sample median: A bioassay test showing survival of less than 90 percent represents a violation of this effluent limit, if five or more of the past ten or less bioassay tests show less than 90 percent survival.

90th percentile: A bioassay test showing survival of less than 70 percent represents a violation of this effluent limit if one or more of the past ten or less bioassay tests show less than 70 percent survival.

5.2 Chronic Toxicity:

The discharge is classified as a deep water discharge. The chronic toxicity effluent limitation is based on a dilution ratio of 10:1.

The effluent from the treatment plant as discharged, shall meet both of the following chronic toxicity limitations:

- a. an eleven sample median value¹ of 10 TUc²; and
- b. a 90 percentile value³ of 20 TUc².

¹ A test sample showing chronic toxicity greater than 10 TUc represents consistent toxicity and a violation of this limitation, if five or more of the past ten or less tests show chronic toxicity greater than 10 TUc.

² A TUc equals 100/NOEL. The NOEL is the no observable effect level, determined from IC, EC, or NOEC values (see Attachment C). These terms and their usage in determining compliance with the limitations are defined in the Attachments of this Order. The NOEL shall be based on a critical life stage test using the most sensitive test species as specified by the Executive Officer. The Executive Officer may specify two compliance species if test data indicate that there is alternating sensitivity between the two species. If two compliance test species are specified, compliance shall be based on the maximum TUc value for the discharge sample based on a comparison of TUc values obtained through concurrent testing of the two species.

³ A test sample showing chronic toxicity greater than 20 TUc represents consistent toxicity and a violation of this limitation if one or more of the past ten or less samples shows toxicity greater than 20 TUc.

6. Limits for Toxic Substances: The discharge of effluent containing constituents in excess of the following limits is prohibited (a, e): (All limits in µg/l)

<u>Constituent</u>	<u>Monthly Average (b)</u>	<u>Daily Average (b)</u>
1. Arsenic		200
2. Cadmium		30
3. Chromium (VI) (c)		110
2. Copper		37
3. Lead (f)		53
4. Mercury	0.21	1
5. Nickel (f)		65
6. Selenium (f)		50
7. Silver		23
8. Zinc (f)		580
9. Cyanide (d)		25
10. PAHs	47	
11. Phenol		500
12. Chloroform	4,800	
13. G-BHC (Lindane)	0.62	1.6
14. Halomethanes	4,800	
15. Tributyltin	0.06	0.12
16. PCBs	1.05	
17. TCDD Equivalents	1.2E-04	

Footnotes:

- These limits are based on marine water quality objectives, and are intended to be achieved through secondary treatment and, as necessary, pretreatment and source control.
- Limits apply to the average concentration of all samples collected during the averaging period (Daily - 24-hour period; Monthly - Calendar month).
- The discharger may meet the limit for hexavalent chromium as total chromium.
- The discharger may demonstrate compliance with this limitation by measurement of weak acid dissociable cyanide.
- All analyses shall be performed using current USEPA Methods, as specified in USEPA Water/Wastewater Method (EPA-600 Series). Detection limits, practical quantitative levels (PQL), and limits of quantitation will be taken into account in determining compliance with effluent limitations.
- Effluent limitation may be met as a 4-day average. If compliance is to be determined based on a 4-day average, then concentrations of four 24-hour composite samples shall be reported, as well as the average of four.

C. RECEIVING WATER LIMITATIONS

1. The discharge of waste shall not cause the following conditions to exist in waters of the State at any place:
 - a. Floating, suspended, or deposited macroscopic particulate matter or foam;
 - b. Bottom deposits or aquatic growths to the extent that such deposits or growths cause nuisance or adversely affect beneficial uses;
 - c. Alteration of temperature, turbidity, or apparent color beyond present natural background levels;
 - d. Visible, floating, suspended, or deposited oil or other products of petroleum origin;
 - e. Toxic or other deleterious substances to be present in concentrations or quantities which will cause deleterious effects on wildlife, waterfowl, or other aquatic biota, or which render any of these unfit for human consumption, either at levels created in the receiving waters or as a result of biological concentration.
2. The discharge of waste shall not cause the following limits to be exceeded in waters of the State any one place within one foot of the water surface:
 - a. Dissolved Oxygen 7.0 mg/l, minimum

The median dissolved oxygen concentration for any three consecutive months shall not be less than 80% of the dissolved oxygen content at saturation. When natural factors cause concentrations less than that specified above, then the discharge shall not cause further reduction in ambient dissolved oxygen concentrations.
 - b. Dissolved Sulfide 0.1 mg/l, maximum
 - c. pH Variation from normal ambient pH by more than 0.5 pH units.
 - d. Un-ionized Ammonia 0.025 mg/l as N, annual median
 0.16 mg/l as N, max.
 - e. Nutrients Waters shall not contain biostimulatory substances in concentrations that promote aquatic growths to the extent that such growths cause nuisance or adversely affect beneficial uses.
3. The discharge shall not cause a violation of any particular water quality standard for receiving waters adopted by the Board or the State Board as required by the Clean Water Act and regulations adopted thereunder. If more stringent applicable water quality standards are promulgated or approved pursuant to Section 303 of the Clean Water Act, or amendments thereto, the Board may revise and modify this Order in accordance with such more stringent standards.

D. SLUDGE MANAGEMENT PRACTICES

1. Sludge generated by the discharger is incinerated on site in multiple hearth furnaces. Once a year a portion of the sludge is lime stabilized and sent to a landfill, or utilized for land application. This practice is implemented in order to ensure that the facility will be able to handle and dispose of sludge in the event that the incinerators are not usable. If the discharger desires to treat and dispose of, or reuse sludge by a different method, a request for permit modification must be submitted to the USEPA 180 days before start-up of the alternative disposal practice. All the requirements in 40 CFR 503 are enforceable by USEPA whether or not they are stated in an NPDES permit or other permit issued to the discharger.
2. Sludge treatment and storage, and ash disposal and reuse shall not create a nuisance, such as objectionable odors or flies, or result in groundwater contamination.
3. Duty to mitigate: The discharger shall take all reasonable steps to prevent or minimize any sludge or ash use or disposal which has a likelihood of adversely affecting human health or the environment.
4. The discharge of sewage sludge shall not cause waste material to be in a position where it is, or can be carried from the sludge treatment and storage site and deposited in the waters of the State.
5. Sludge that is disposed of in a municipal solid waste landfill must meet the requirements of 40 CFR 258.
6. Permanent on-site sludge storage or disposal activities are not authorized by this permit. A report of Waste Discharge shall be filed and the site brought into compliance with all applicable regulations prior to commencement of any such activity by the discharger.

E. PROVISIONS

1. Requirements prescribed by this Order supersede the requirements prescribed by Order No. 89-170, which is hereby rescinded.
2. The Discharger shall comply with all sections of this Order immediately upon adoption.
3. Where concentration limitations in mg/l or µg/l are contained in this Permit, the following Mass Emission Limitations shall also apply.

(Mass Emission Limit in kg/day = (Concentration Limit in mg/l) x (Actual Flow in million gallons per day averaged over the time interval to which the limit applies) x 3.78 (conversion factor)).

4. Compliance with Acute Toxicity Effluent Limitation

- a. Compliance with Effluent Limitation C.5 (Acute Toxicity) of this Order shall be evaluated by measuring survival of three-spined stickleback exposed to undiluted effluent for 96 hours in flow-through bioassays.
- b. The discharger shall conduct a special study to measure survival of rainbow trout exposed to undiluted combined effluent. These tests can be conducted using either flow-through or static renewal bioassays. The survival of three spine stickleback and rainbow trout should be measured concurrently, by conducting one test per month for six months. The discharger shall submit test data acceptable to the Executive Officer, within 1 year after adoption of this Order. Depending upon the results of this six month study, the Executive Officer may require continued use of rainbow trout for acute toxicity monitoring.
- c. All bioassays shall be performed according to protocols approved by the USEPA or State Board, or published by the American Society for Testing and Materials (ASTM) or American Public Health Association.

5. Compliance with Chronic Toxicity Effluent Limitation

- a. If there is a violation of the chronic toxicity effluent limitation, the discharger shall conduct a chronic toxicity TRE, which shall initially involve a TIE. The TIE shall be in accordance with a work plan acceptable to the Executive Officer. The TIE shall be initiated within 30 days of the date of violation. The objective of the TIE shall be to identify the chemical or combination of chemicals that are causing the observed toxicity. Currently available TIE methodologies shall be employed by the discharger. As toxic constituents are identified or characterized, the discharger shall continue the TRE and take all reasonable steps to determine the source(s) of the toxic constituent(s) and evaluate alternative strategies for reducing or eliminating the constituent(s) from the discharge, and reduce toxicity to the required level. The Board recognizes that chronic toxicity may be episodic, and that identification of causes of chronic toxicity may not be successful in all cases. Consideration of enforcement action by the Board will be based in part on the discharger's actions in identifying and reducing sources of consistent toxicity.
 - b. Definitions of terms used in the chronic toxicity effluent limitation are included in Attachment C of this Order.
 - c. Chronic Toxicity Monitoring Screening Phase Requirements are identified in Attachment D of this Order. The discharger shall comply with these requirements as appropriate. Attachment D also identifies Critical Life Stage Toxicity Tests used in the chronic toxicity monitoring.
6. Receiving Water Bacterial Monitoring - The discharger shall submit a proposed plan, by July 15, 1995, acceptable to the Executive Officer, for continued monitoring of receiving water for total and fecal coliform. The discharger shall perform monitoring in

accordance with the approved plan, and submit two status reports on November 15, 1995 and June 17, 1996 respectively. These status reports shall present the findings of the effluent and receiving water monitoring. The June 17, 1996 report shall provide an assessment of the results with respect to impacts on beneficial uses of the receiving waters, and the continued use of the fecal coliform water quality objective as a basis for the bacterial effluent limitation.

7. Cyanide Source Control Efforts - The discharger shall submit a report, satisfactory to the Executive Officer, documenting source control efforts in progress for identification and reduction of cyanide sources. This report shall be submitted by February 28, 1996, and shall include a proposed time schedule for additional source control measures, as necessary depending on the outcome of initial efforts. The goal of these source control efforts is to maintain cyanide concentrations in effluent at levels less than 10 µg/l on a consistent basis. Ongoing followup status reports on cyanide source control efforts shall be included in the Pollution Prevention Annual Report submitted in January of each year.
8. Special Study - PCB, Dioxin and Other Bioaccumulative Substances - The discharger shall, in conjunction with other dischargers, conduct a study to investigate the extent and degree of fish contamination in the San Francisco estuary, in conjunction with other dischargers. The study should focus on PCBs, dioxin, and other bioaccumulative pollutants which have been measured in the estuary, either in water in concentrations exceeding EPA human health criteria, or in fish tissue in concentrations that pose a risk to human health. The study shall be designed based on results of the Regional Monitoring Program (RMP) and the fish contamination study conducted by the Regional Board in 1994, in order to address issues left unresolved by the 1994 fish contamination study. Since elevated PCB levels in the estuary is a region wide issue, the Regional Board will be requiring all dischargers currently participating in the RMP to contribute to this study.
9. Pretreatment Program

The discharger shall implement and enforce their approved pretreatment program in accordance with Board Order 95-015 and its amendments thereafter. The dischargers' responsibilities include, but are not limited to:

- a. Enforcement of National Pretreatment Standards (e.g. prohibited discharges, Categorical Standards, local limits) in accordance with 40 CFR 403.5 and Section 307 (b) and (c) of the Clean Water Act.
- b. Implementation of the pretreatment program in accordance with legal authorities, policies, procedures, and financial provisions described in the General Pretreatment regulations (40 CFR 403) and its approved pretreatment program.
- c. Submission of annual and quarterly reports to USEPA and the State as described in Board Order 95-015, and its amendments thereafter.

10. Pollution Prevention Program

- a. The discharger shall continue to participate in the Pollution Prevention Program, and shall continue to implement and expand its existing Pollution Prevention Program in order to reduce the loadings of targeted constituents to the treatment plant and, subsequently, to the receiving waters.
- b. The discharger shall continue to submit annual reports by January 15th and progress reports by July 15th of each year that are acceptable to the Executive Officer. The reports should include (1) documentation of its efforts and progress, (2) evaluation of the program's accomplishments, and (3) identification of specific tasks and time schedules for future efforts. Duplicate copies of the reports shall be provided: one to the Board's NPDES Permit Case Handler and one to the Board's Pollution Prevention Coordinator.

11. Operations and Maintenance Procedures - The discharger shall review, and update as necessary, its Operations and Maintenance Procedures, annually, or within a reasonable time period after completion of any significant facility or process changes. The report describing the results of the review process including an estimated time schedule for completion of any revisions determined necessary, and a description or copy of any completed revisions, shall be submitted to the Board as part of the Annual Report, as described in Section F.5, Part A, of the attached Self-Monitoring Program.
12. Contingency Plan - Annually, the discharger shall review and update as necessary, its Contingency Plan as required by Board Resolution 74-10. The discharge of pollutants in violation of this Order where the discharger has failed to develop and/or adequately implement a contingency plan will be the basis for considering such discharge a willful and negligent violation of this Order pursuant to Section 13387 of the California Water Code. Plan revisions, or a letter stating that no changes are needed, shall be submitted to the Board as a part of the Annual Report, as described in Section F.5, Part A, of the attached Self-Monitoring Program.
13. Wastewater Facilities Management - The discharger shall regularly review and evaluate its wastewater collection, treatment and disposal facilities in order to ensure that all facilities are adequately operated, maintained, repaired, and upgraded as necessary, in order to provide reliable transport, treatment, and disposal of all wastewater from both existing and planned future wastewater sources under the discharger's service responsibilities.
14. Self-Monitoring Program - The discharger shall comply with the Self-Monitoring Program for this order, as adopted by the Board and as may be amended by the Executive Officer.
15. Standard Provisions - The discharger shall comply with all applicable items of the attached "Standard Provisions and Reporting Requirements " dated August 1993, or any amendments thereafter, including Section A.12 concerning bypasses.

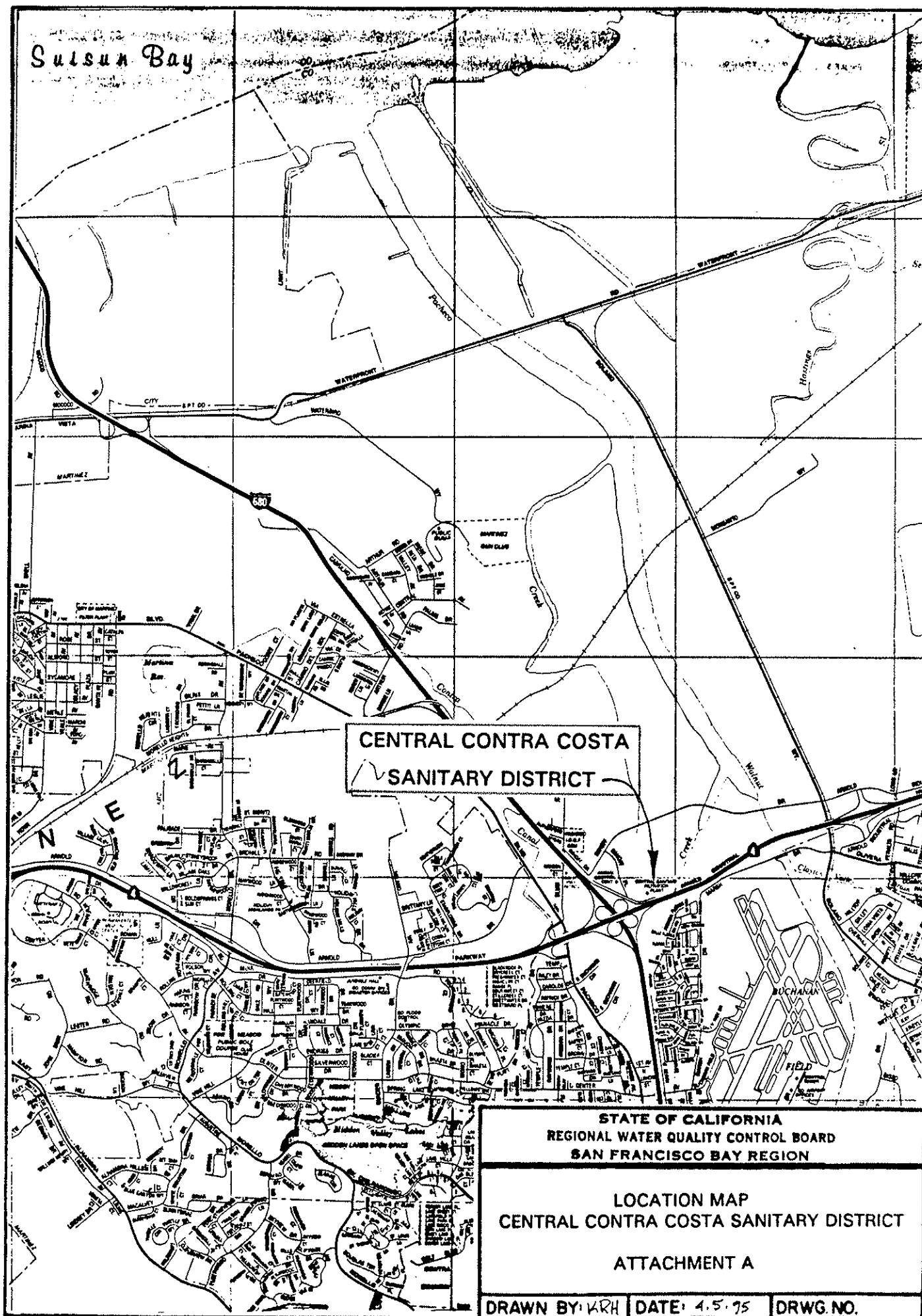
16. Change in Control or Ownership - In the event of any change in control or ownership of land or waste discharge facilities presently owned or controlled by the discharger, the discharger shall notify the succeeding owner or operator of the existence of this Order by letter, a copy of which shall be immediately forwarded to this office. To assume operation of this Order, the succeeding owner or operator must apply in writing to the Executive Officer requesting transfer of the Order. (Refer to Standard Provisions, referenced above). The request must contain the requesting entity's full legal name, the address and telephone number of the persons responsible for contact with the Board and a statement. The statement shall comply with the signatory paragraph described in Standard Provisions and state that the new owner or operator assumes full responsibility for compliance with this Order. Failure to submit the request shall be considered a discharge without requirements, a violation of the California Water Code.
17. Reopener - The Board may modify, or revoke and reissue, this Order and Permit if present or future investigations demonstrate that the discharge(s) governed by this Order are causing or significantly contributing to adverse impacts on water quality and/or beneficial uses of the receiving waters.
18. Order Expiration - This Order expires on May 24, 2000. The discharger must file a report of waste discharge in accordance with Title 23 of the California Administrative Code not later than 120 days before this expiration date as application for reissuance of waste discharge requirements.
19. NPDES Permit - This Order shall serve as a National Pollutant Discharge Elimination System (NPDES) permit pursuant to Section 402 of the Clean Water Act or amendments thereto, and shall become effective 10 days after the date of its adoption provided the Regional Administrator, USEPA, has no objection. If the Regional Administrator objects to its issuance, the permit shall not become effective until such objection is withdrawn.

I, Steven R. Ritchie, Executive Officer, do hereby certify that the foregoing is a full, true, and correct copy of an order adopted by the California Regional Water Quality Control Board, San Francisco Bay Region, on May 24, 1995.

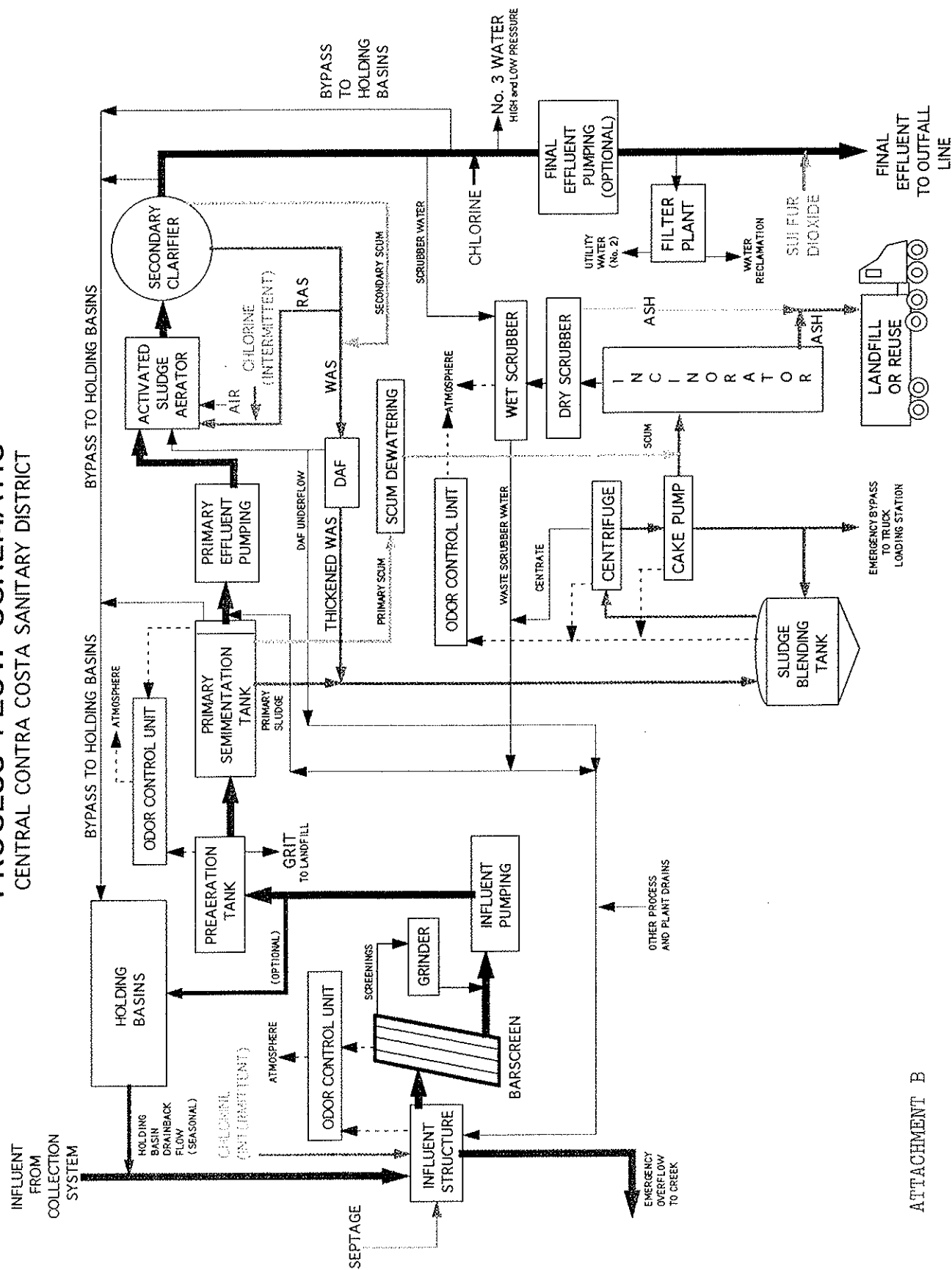

STEVEN R. RITCHIE
Executive Officer

Attachments:

- A. Location Map
- B. Process Schematic
- C. Chronic Toxicity Definition of Terms
- D. Chronic Toxicity Screening Phase Monitoring Requirements
- E. Self-Monitoring Program
- F. Standard Provisions and Reporting Requirements - August 1993
- G. Contingency Plan - Resolution 74-10



PROCESS FLOW SCHEMATIC



ATTACHMENT B

ATTACHMENT C

CHRONIC TOXICITY - DEFINITION OF TERMS

- A. No observed effect level (NOEL) for compliance determination is equal to IC_{25} or EC_{25} . If the IC_{25} or EC_{25} cannot be statistically determined, the NOEL shall be equal to the NOEC derived using hypothesis testing.
- B. Effective concentration (EC) is a point estimate of the toxicant concentration that would cause an adverse effect on a quantal, "all or nothing," response (such as death, immobilization, or serious incapacitation) in a given percent of the test organisms. If the effect is death or immobility, the term lethal concentration (LC) may be used. EC values may be calculated using point estimation techniques such as probit, logit, and Spearman-Kärber. EC_{25} is the concentration of toxicant (in percent effluent) that causes a response in 25% of the test organisms.
- C. Inhibition Concentration (IC) is a point estimate of the toxicant concentration that would cause a given percent reduction in a non-lethal, non-quantal biological measurement, such as growth. For example, an IC_{25} is the estimated concentration of toxicant that would cause a 25% reduction in average young per female or growth. IC values may be calculated using a linear interpolation method such as EPA's Bootstrap Procedure.
- D. No observed effect concentration (NOEC) is the highest tested concentration of an effluent or a toxicant at which no adverse effects are observed on the aquatic test organisms at a specific time of observation. It is determined using hypothesis testing.

ATTACHMENT D

CHRONIC TOXICITY - SCREENING PHASE REQUIREMENTS

- A. The discharger shall perform screening phase monitoring:
1. Subsequent to any significant change in the nature of the effluent discharged through changes in sources or treatment, except those changes resulting from reductions in pollutant concentrations attributable to pretreatment, source control, and waste minimization efforts, or
 2. Prior to Permit reissuance. Screening phase monitoring data shall be included in the NPDES Permit application for reissuance. The information shall be as recent as possible, but may be based on screening phase monitoring conducted within 5 years before the permit expiration date.
- B. Design of the screening phase shall, at a minimum, consist of the following elements:
1. Use of test species specified in Tables 1 and 2 (attached), and use of the protocols referenced in those tables, or as approved by the Executive Officer;
 2. Two stages:
 - a. Stage 1 shall consist of a minimum of one battery of tests conducted concurrently. Selection of the type of test species and minimum number of tests shall be based on Table 3 (attached); and
 - b. Stage 2 shall consist of a minimum of two test batteries conducted at a monthly frequency using the three most sensitive species based on the Stage 1 test results and as approved by the Executive Officer.
 3. Appropriate controls; and
 4. Concurrent reference toxicant tests.

TABLE 1

CRITICAL LIFE STAGE TOXICITY TESTS FOR ESTUARINE WATERS

SPECIES	(Scientific name)	EFFECT	TEST DURATION	REFERENCE
alga	(<u>Skeletonema costatum</u>) (<u>Thalassiosira pseudonana</u>)	growth rate	4 days	1
red alga	(<u>Champia parvula</u>)	number of cystocarps	7-9 days	5
Giant kelp	(<u>Macrocystis pyrifera</u>)	percent germination; germ tube length	48 hours	3
abalone	(<u>Haliotis rufescens</u>)	abnormal shell development	48 hours	3
oyster mussel	(<u>Crassostrea gigas</u>) (<u>Mytilus edulis</u>)	{abnormal shell development; {percent survival	48 hours	2
Echinoderms (urchins - (sand dollar -	<u>Strongylocentrotus purpuratus</u> , <u>S. franciscanus</u>); <u>Dendraster excentricus</u>)	percent fertilization	1 hour	4
shrimp	(<u>Mysidopsis bahia</u>)	percent survival; growth; fecundity	7 days	5
silversides	(<u>Menidia beryllina</u>)	larval growth rate; percent survival	7 days	5

TOXICITY TEST REFERENCES

1. American Society for Testing Materials (ASTM). 1990. Standard Guide for conducting static 96-hour toxicity tests with microalgae. Procedure E 1218-90. ASTM Philadelphia, PA.
2. American Society for Testing Materials (ASTM). 1989. Standard Practice for conducting static acute toxicity tests with larvae of four species of bivalve molluscs. Procedure E 724-89. ASTM, Philadelphia, PA.
3. Anderson, B.B. J.W. Hunt, S.L. Turpen, A.R. Coulon, M. Martin, D.L. McKeown, and F.H. Palmer. 1990. Procedures manual for conducting toxicity tests developed by the marine bioassay project. California State Water Resources Control Board, Sacramento.
4. Dinnel, P.J., J. Link, and Q. Stober. 1987. Improved methodology for sea urchin sperm cell bioassay for marine waters. Archives of Environmental Contamination and Toxicology 16:23-32. and S.L. Anderson. September 1, 1989. Technical Memorandum. San Francisco Bay Regional Water Quality Control Board, Oakland, CA.
5. Weber, C.I., W.B. Horning, II, D.J. Klem, T.W. Neiheisel, P.A. Lewis, E.L. Robinson, J. Menkedick, and F. Kessler (eds.). 1988. Short-term methods for estimating the chronic toxicity of effluents and receiving waters to marine and estuarine organisms. EPA-600/4-87/028. National Technical Information Service, Springfield, VA.

TABLE 2
CRITICAL LIFE STAGE TOXICITY TESTS FOR FRESH WATERS

SPECIES	(Scientific name)	EFFECT	TEST DURATION	REFER- ENCE
fathead minnow	(<u>Pimephales promelas</u>)	survival; growth rate	7 days	6
water flea	(<u>Ceriodaphnia dubia</u>)	survival; number of young	7 days	6
alga	(<u>Selenastrum capricornutum</u>)	cell division rate	4 days	6

TOXICITY TEST REFERENCE

6. Horning, W.B. and C.I. Weber (eds.). 1989. Short-term methods for estimating the chronic toxicity of effluents and receiving waters to freshwater organisms. Second edition. U.S. EPA Environmental Monitoring Systems Laboratory, Cincinnati, Ohio. EPA/600/4-89/001.

TABLE 3

TOXICITY TEST REQUIREMENTS FOR STAGE ONE SCREENING PHASE

REQUIREMENTS	RECEIVING WATER CHARACTERISTICS		
	DISCHARGES TO COAST	DISCHARGES TO SAN FRANCISCO BAY‡	
	Ocean	Marine	Freshwater
Taxonomic Diversity	1 plant 1 invertebrate 1 fish	1 plant 1 invertebrate 1 fish	1 plant 1 invertebrate 1 fish
Number of tests of each salinity type			
Freshwater†	0	1 or 2	3
Marine	4	3 or 4	0
Total number of tests	4	5	3

† The fresh water species may be substituted with marine species if:

- 1) The salinity of the effluent is above 5 parts per thousand (ppt) greater than 75% of the time, or
- 2) The ionic strength (TDS or conductivity) of the effluent at the test concentration used to determine compliance is documented to be toxic to the test species.

‡ Marine refers to receiving water salinities greater than 5 ppt at least 75% of the time during a normal water year.

Fresh refers to receiving water with salinities less than 5 ppt at least 75% of the time during a normal water year.

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN FRANCISCO BAY REGION

SELF-MONITORING PROGRAM

FOR

CENTRAL CONTRA COSTA SANITARY DISTRICT
CONTRA COSTA COUNTY

NPDES NO. CA0037648
ORDER NO. 95 - 108

CONSISTS OF

PART A (August 1993)
PART B

SELF-MONITORING PROGRAM
PART B

CENTRAL CONTRA COSTA SANITARY DISTRICT

I. DESCRIPTION OF SAMPLING STATIONS

A. INFLUENT

<u>Station</u>	<u>Description</u>
A-001	At any point in the treatment facilities headworks at which all waste tributary to the system is present and preceding any phase of treatment.

B. EFFLUENT

<u>Station</u>	<u>Description</u>
E-001	At any point in the outfall from the treatment facilities between the point of discharge and the point at which all flow tributary to that outfall is present. (May be the same as E-001-D).
E-001-D	At any point in the disinfection facilities for flow E-001, at which point adequate contact with the disinfectant is assured.
E-001-S	At any point in the treatment and disposal facilities following dechlorination.

C. RECEIVING WATERS

<u>Station</u>	<u>Description</u>
C-1	At a point in Suisun Bay, located within 25 feet of the point of discharge from the outfall diffuser section.
C-2	At a point in Suisun Bay, located 100 feet generally west from the offshore end of the diffuser section of the outfall line.
C-3	At a point in Suisun Bay, located 100 feet generally north from the offshore end of the diffuser section of the outfall line.

- C-4 At a point in Suisun Bay, located 100 feet generally east from the diffuser section of the outfall line.
- C-5 At a point in Suisun Bay, located 100 feet generally south from the shoreward end of the diffuser section of the outfall line.
- C-R At a point in Suisun Bay, located 1,000 feet up current from the diffuser section of the outfall line in waters of the same depth (-5 feet) as station C-1 and not located in the dredged channel.

D. MISCELLANEOUS DISCHARGE

<u>Station</u>	<u>Description</u>
M-002 (current)	Discharge pipe for wet weather flow in excess of treatment plant and basin capacity, located near the northwest corner of Basin "C". Discharge would be to Walnut Creek via Pacheco Slough.
M-002 (proposed)	Discharge pipe for wet weather flow in excess of treatment plant and basin capacity, located at a point near the northwest corner of Holding Basin "B". Discharge would be directly into Walnut Creek.
M-003	Emergency bypass to Grayson Creek. This could occur should mechanical problems result in reduction of influent pumping capacity below influent flow. Discharge from this location would be raw sewage except as may be diluted by peak wet weather flows.
M-004	Alum sludge from the Contra Costa Water District may be dried in these holding basins. Ash, grit and dewatered sewage sludge from the discharger may be deposited into specific holding basins only if no other storage or disposal option is available.
M-005	This is an emergency discharge pipeline from the first of the holding basins through a levee to Grayson Creek. Structure is not in use at present time.

NOTE: Structures M-002, M-003, and M-005 are not permitted for discharge by Order No. 95-108.

E. LAND OBSERVATIONS

<u>Station</u>	<u>Description</u>
P-1 through P-'n'	Located along the periphery of the waste treatment facilities at equidistant intervals, not to exceed 200 feet. (A sketch showing the locations of these stations will accompany each annual report).

F. OVERFLOWS AND BYPASSES

<u>Station</u>	<u>Description</u>
OV-1 through OV-'n'	At points in the collection system including manholes, pump stations, or any other location where overflows and bypasses occur.

G. SLUDGE & ASH

The discharger shall chemically analyze sludge as necessary to comply with requirements for landfill disposal, or for reuse and/or disposal of sludge ash.

II. CHRONIC TOXICITY MONITORING REQUIREMENT

- A. Test Species and Frequency: The discharger shall collect 24-hour composite samples of treatment plant effluent at the compliance point station specified in Table 1 of this Self-Monitoring Program, for critical life stage toxicity testing as indicated below. For toxicity tests requiring renewals, 24-hour composite samples collected on consecutive days are required.

<u>Test Species</u>	<u>Frequency</u> ¹
Echinoderm	Once every two months

- B. Methodology: Sample collection, handling and preservation shall be in accordance with EPA protocols. The test methodology used shall be in accordance with the references cited in the Permit, or as approved by the Executive Officer. A concurrent reference toxicant test shall be performed for each test.

¹ After at least twelve test rounds, the discharger may request the Executive Officer to decrease the required frequency of testing, and/or to reduce the number of compliance species to one. Such a request may be made only if toxicity exceeding the TUC values specified in the effluent limitations was never observed using that test species.

- B. Methodology: Sample collection, handling and preservation shall be in accordance with EPA protocols. The test methodology used shall be in accordance with the references cited in the Permit, or as approved by the Executive Officer. A concurrent reference toxicant test shall be performed for each test.
- C. Dilution Series: The discharger shall conduct tests at 50%, 25%, 10%, 5%, and 2.5%. The "%" represents percent effluent as discharged.

III. CHRONIC TOXICITY REPORTING REQUIREMENTS

- A. Routine Reporting: Toxicity test results for the current reporting period shall include at a minimum, for each test
1. sample date(s)
 2. test initiation date
 3. test species
 4. end point values for each dilution (e.g. number of young, growth rate, percent survival)
 5. NOEC value(s) in percent effluent
 6. IC_{15} , IC_{25} , IC_{40} , and IC_{50} values (or EC_{15} , EC_{25} ... etc.) in percent effluent
 7. TUC values ($100/NOEC$, $100/IC_{25}$, and $100/EC_{25}$)
 8. Mean percent mortality (\pm s.d.) after 96 hours in 100% effluent (if applicable)
 9. NOEC and LOEC values for reference toxicant test(s)
 10. IC_{50} or EC_{50} value(s) for reference toxicant test(s)
 11. Available water quality measurements for each test (ex. pH, D.O., temperature, conductivity, hardness, salinity, ammonia)
- B. Compliance Summary: Each self-monitoring report shall include a summary table of chronic toxicity data from at least eleven of the most recent samples. The information in the table shall include the items listed above under Section A item numbers 1, 3, 5, 6(IC_{25} or EC_{25}), 7, and 8.
- C. Reporting Raw Data in Electronic Format: On a quarterly basis, by February 15, May 15, August 15, and December 15 of each year, the discharger shall report all chronic toxicity data for the previous calendar quarter in the format specified in "Suggested Standardized Reporting Requirements for Monitoring Chronic Toxicity," February 1993, SWRCB. The data shall be submitted in either high or low density, double sided 3.5-inch floppy diskettes.

IV. SCHEDULE OF SAMPLING AND ANALYSIS

- A. The schedule of sampling and analysis shall be that given in Table 1 (attached).
- B. Sample collection, storage, and analyses shall be performed according to requirements in the latest 40 CFR 136, in the Permit, or as specified by the Executive Officer.

V. REPORTING REQUIREMENTS

- A. General Reporting Requirements are described in Section E of the Board's "Standard Provisions and Reporting Requirements for NPDES Surface Water Discharge Permits", dated August 1993.
- B. Self-Monitoring Reports for each calendar month shall be submitted monthly, by the twentieth day of the following month in accordance with Section F.4 of Part A.
- C. An Annual Report for each calendar year shall be submitted to the Board within 60 days after the end of the year. The required contents of the annual report are described in Section F.5 of Part A.
- D. Any overflow in excess of 1,000 gallons, any bypass, or any significant non-compliance incident that may endanger health or the environment shall be reported in accordance with Sections F.1 and F.2 of Part A as modified below, and any additional reporting guidance as may be provided by Board staff. Written reporting requirements for collection system spills and overflows may be satisfied by submittal of summary information with the monthly report.
- E. Collection system sewage spills and overflows where the estimated quantity is over 100 gallons shall be reported in each monthly report. Summary information for each spill or overflow shall include the date, time, duration, location, estimated volume, cause, and any sampling data collected.

VI. MODIFICATIONS TO PART A & STANDARD PROVISIONS AND REPORTING REQUIREMENTS

- A. This monitoring program does not include the following sections of Part A: C.3, C.5, and E.3.
- B. The second sentence of Section F.1, Spill Reports, is revised to read as follows: "Spills shall be reported to this Regional Board (510-286-1255 on weekdays during office hours from 8 a.m. to 5 p.m.), and to the Office of Emergency Services (800-852-7550 during non office hours) immediately after the occurrence.

Section F.1.b is revised to read: "Best estimate of volume involved".


Section F.1.d is revised to read: "Cause of spill or overflow".

Section F.1.i is revised to read: "Agencies or persons notified".

- C. Section G, Definitions, No. 14, Overflows is revised to read as follows: "Overflow is defined as the intentional or unintentional spilling or forcing out of untreated or partially treated wastes from a collection or transport system (e.g. collection points, sewer system manholes, pump stations) upstream from the treatment plant headworks caused by excess flows, capacity restrictions, stoppages (obstructions, blockages, and/or structural failure), and the actions of others."

I, Steven R. Ritchie, Executive Officer, hereby certify that the foregoing Self-Monitoring Program:

1. Has been developed in accordance with the procedure set forth in this Board's Resolution No. 73-16 in order to obtain data and document compliance with waste discharge requirements established in Order No. 95-108.
2. Is effective on the date shown below.
3. May be reviewed at any time subsequent to the effective date upon written notice from the Executive Officer or request from the discharger and revisions will be ordered by the Executive Officer, pursuant to 40 CFR 122.62 and 124.4.


STEVEN R. RITCHIE
Executive Officer

Effective Date: 5/24/95

Attachments:

Table 1 - Schedule of Sampling, Measurement and Analysis
Part A, dated August 1993

TABLE 1

[illegible]

TABLE 1 (continued)

SCHEDULE FOR SAMPLING, MEASUREMENTS, AND ANALYSIS

Sampling Station:			A	E-001		E-001-D & S			M-002		L	O	C	
Type of Sample:			C-24	G	C-24	Co	G	C-24	Co	G	C-24	Ob	Ob	Ob
Parameter	(units)	[notes]												
Arsenic	(µg/L & kg/d)				Q									
Cadmium	(µg/L & kg/d)				M									
Chromium VI	(µg/L & kg/d)				A									
Copper	(µg/L & kg/d)				M									
Cyanide	(µg/L & kg/d)				M									
Silver	(µg/L & kg/d)				Q									
Lead	(µg/L & kg/d)				A									
Mercury	(µg/L & kg/d)				M									
Nickel	(µg/L & kg/d)				M									
Selenium	(µg/L & kg/d)				Q									
Silver	(µg/L & kg/d)				Q									
Zinc	(µg/L & kg/d)				Q									
Table 1A Constituents [6]					As indicated on Table 1A (Attached)									

LEGEND FOR TABLE 1:

Types of Samples

Co = Continuous
C-24 = 24-hour composite
G = Grab
Ob = Observations

Frequency of Sampling

D = Once each day
W = Once each week
M = Once each month
A = Once each year
Q = Once each calendar quarter (with
with at least two month intervals)
E = Each occurrence
3/W = 3 days per week
2H = Every 2 hours
2M = Every 2 months

Types of Stations

A = Treatment Plant Influent
E = Treatment Plant Effluent
O = Overflow and Bypass Points
P = Treatment Facility Perimeters
C = Receiving Water
L = Pond Levee Stations

TABLE 1A

Monitoring Frequency for Priority Pollutants

<u>Constituent</u>	<u>Frequency</u>
1, 2 - Dichlorobenzene	A
1, 3 - Dichlorobenzene	A
1, 4 - Dichlorobenzene	A
2, 4 - Dichlorophenol	A
2, 4, 6 - Trichlorophenol	A
4 - Chloro - 3 - Methylphenol	A
Aldrin	A
A - BHC	A
Benzene	A
B - BHC	A
Chlordane	A
Chloroform	Q
DDT	A
Dichloromethane	Q
Dieldrin	A
Endosulfan	A
Endrin	A
Fluoranthene	A
G - BHC (Lindane)	Q
Halomethanes	Q
Heptachlor	A
Heptachlor Epoxide	A
Hexachlorobenzene	A
PAH's	Q [7]
PCB's	Q [8]
Pentachlorophenol	A
Phenol	A
TCDD Equivalents	[9]
Toluene	A
Toxaphene	A
Tributyltin	Q

FOOTNOTES FOR TABLE 1 AND TABLE 1A

- [1] Flow Monitoring: Influent and effluent flows shall be measured continuously, and recorded and reported daily. For effluent flows, the following information shall also be reported, monthly:

Average Daily Flow (MGD)
Maximum Daily Flow (MGD)
Minimum Daily Flow (MGD)

- [2] Chlorine Residual: Monitor dechlorinated effluent (E-001-S) continuously or, at a minimum, every 2 hours. Report, on a daily basis, both maximum and minimum concentrations, for samples taken both prior to, and following dechlorination. If a violation is detected, the maximum and average concentrations and duration of each non-zero residual event shall be reported, along with the cause and corrective actions taken. Upon start-up of the ultraviolet disinfection system, routine monitoring of the effluent for chlorine residual shall no longer be required.
- [3] Oil & Grease: Each Oil and Grease sample shall consist of three grab samples taken at equal intervals, no less than two hours apart, during the sampling day. Each grab sample shall be collected in a separate glass container, and analyzed separately. Results shall be expressed as weighted average of the three values, based upon the instantaneous flow rates occurring at the time of each grab sample.
- [4] Bioassays: Effluent used for fish bioassays must be dechlorinated prior to testing. Monitoring of the bioassay water shall include, on a daily basis, the following parameters: pH, dissolved oxygen, ammonia nitrogen, and temperature. These results shall be reported. If a violation of acute toxicity requirements occurs, bioassay testing shall continue back to back until compliance is demonstrated.
- [5] Wet Weather Bypasses: During any time when wet weather events result in flows in excess of the storage basin capacity, thus causing discharge to Pacheco Slough or Walnut Creek, the following sampling schedule for the duration of the discharge shall be implemented: Daily grab samples 500 feet upstream and 500 feet downstream from the discharge point for dissolved oxygen, pH, carbonaceous biochemical oxygen demand (CBOD), total suspended solids (TSS), and total and fecal coliform; 24-hour composite samples of the effluent from the discharge point for CBOD and TSS when the duration of the discharge is less than 24 hours.
- Grab samples of effluent shall be taken daily for the duration of the bypass event for total coliform, settleable matter, oil and grease, and chlorine residual (continuous or every two hours). Bypassed flow shall be continuously monitored.
- [6] Selected Toxic Pollutant Monitoring: Monitoring for these constituents may be done in conjunction with that conducted for the Pretreatment Program; however, in addition to inclusion with Pretreatment submittals, the results shall be submitted with the monthly Self-Monitoring Report for the period of monitoring.

- [7] PAHs (Polynuclear Aromatic Hydrocarbons): PAHs shall mean all PAH constituents identified by USEPA Method 610. This includes acenaphthylene, anthracene, 1,2-benzanthracene, 3,4-benzofluoranthene, benzo[k]fluoranthene, 1,12-benzoperylene, benzo[a]pyrene, chrysene, dibenzo[a,h]anthracene, fluorene, indeno[1,2,3-cd]pyrene, phenanthrene, and pyrene. For monitoring, other approved test methods may be used, provided all USEPA Method 610 constituents are identified.
- [8] PCBs: (polychlorinated biphenyls) shall mean the sum of chlorinated biphenyls whose analytical characteristics resemble those of Aroclor-1016, Aroclor-1221, Aroclor-1232, Aroclor-1242, Aroclor-1248, Aroclor-1254, and Aroclor-1260.
- [9] Monitoring for TCDD Equivalents shall be done once prior to the next permit reissuance. TCDD Equivalents shall mean the sum of the concentrations of chlorinated dibenzodioxins (2,3,7,8 - CDDs) and chlorinated dibenzofurans (2,3,7,8 - CDFs) multiplied by their respective toxicity equivalence factors, as shown in the table below. Data submitted shall include detection limits and concentrations of each isomer group.

<u>Isomer Group</u>	<u>Toxicity Equivalence Factor</u>
2,3,7,8 - tetra CDD	1.0
2,3,7,8 - penta CDD	0.5
2,3,7,8 - hexa CDDs	0.1
2,3,7,8 - hepta CDD	0.01
octa CDD	0.001
2,3,7,8 - tetra CDF	0.1
1,2,3,7,8 - penta CDF	0.05
2,3,4,7,8 - penta CDF	0.5
2,3,7,8 - hexa CDFs	0.1
2,3,7,8 - hepta CDFs	0.01
octa CDF	0.001

General Notes

1. Bypass Monitoring: During any time when bypassing occurs from any treatment process (primary, secondary, chlorination, dechlorination, etc.) in the treatment facilities, the self-monitoring program shall include the following sampling and analyses in addition to the Table 1 schedule:
 - a. When bypassing occurs from any primary or secondary treatment unit(s), composite samples on an hourly basis for the duration of the bypass event for BOD and TSS analyses, grab samples at least daily for Settleable Matter and Oil and Grease analyses; and continuous monitoring of flow.
 - b. When bypassing the chlorination process, grab samples at least daily for fecal coliform analyses; and continuous monitoring of flow.

- c. When bypassing the dechlorination process, grab samples hourly for chlorine residual; and continuous monitoring of flow.
 - d. When bypassing the ultraviolet disinfection system, grab samples at least daily for fecal coliform analyses; and continuous monitoring of flow.
 - e. Daily receiving water sampling and observations shall be performed until it is demonstrated that no adverse impact on the receiving water is detected.
2. Percent removal for BOD and TSS (effluent vs. influent) shall also be reported.
3. Grab samples shall be taken on day(s) of composite sampling.
4. If any sample is in violation of limits, sampling frequency shall be increased for that parameter until compliance is demonstrated in two successive samples. Frequency shall be increased as follows:

BOD, TSS, Sett. Solids, Coliform: Daily;
Oil & Grease: Weekly
Acute Toxicity: As indicated in Footnote [6]
Metals and other priority pollutants: Monthly
5. Chlorine residual analyzers shall be calibrated against grab samples as frequently as necessary to maintain accurate control and reliable operation. If an effluent violation is detected, grab samples shall be taken at a minimum every 30 minutes until compliance is achieved. Upon startup of the ultraviolet disinfection system, routine monitoring of the effluent for chlorine residual, and calibration of equipment will not be necessary.
6. Acute and chronic toxicity, and pH monitoring shall be conducted using dechlorinated effluent.